Test Report
Field Density Test by Sand Replacement Method

Project Name	1. Improvement of roads and drain at kogilu layout main road and cross road in ward no 05 byatarayanapura sub division 2. Improvement of roads and drain at kattigenahalli kuvempunagara cross road in ward no 05 byatarayanapura sub division 3. Improvement of drain at dwarakanagara srirama temple road in ward no 05 byatarayanapura sub division 4. Improvement of roads and drain at kattigenahalli surrounding area in ward no 05 byatarayanapura sub division 5. Improvement of roads and drain at nirantara layout in ward no 05 byatarayanapura sub division 6. Improvement of drain and asphalting to road at agrahara layout harihara
Client	Executive Engineer Project Division Yelahanka Zone
Job No	MCTPL/BBMP/Project Division Yelahanka Zone /PMC/2017-2018/QR/P-
Mix Type	Wet Mix Macadam
Contractor	Sri A Chennareddy
Test Method	IS: 2720 (Part - 16) 1963 & Specification for Road & Bridge Works.
Location	bay
Material	Wet Mix Macadam
Sample No	10
Date	19-Apr-2018

Test Hole No	**10**
MDD	2.24
OMC in %	3.20
Bulk Density Ys	1.39
Weight of Sand In cone W1 (gm)	1195.00
Weight Of Wet soil From Hole (W2)	4326.00
Wt Of Sand +Cylinder Before Pouring (W3)gm	17000.00
Wt Of Sand +Cylinder After Pouring (W4) gm	13172.00
Wt Of Sand In Hole: W5 = W3 - W4- W1 (gm)	2633.00
Volume of Hole: V= W5/ Ys	1891.52
Bulk Density Yb= W2/V (gm/cc)	2.29
Moisture Meter Reading (%)	1.59
Moisture Content : w (From Graph In %)	3.10
Dry Density Yd = Yb/(1+W/100)	2.22
Field Compaction(%)	99.03

Note:

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For Mecadez Core Technologies Private Limited

Authorised Signature

Asst. Executive Engr.
Project Division
Yelahanka Zone
Bangalore

Test Report
Field Density Test by Sand Replacement Method

Project Name	1. Improvement of roads and drain at kogilu layout main road and cross road in ward no 05 byatarayanapura sub division 2. Improvement of roads and drain at kattigenahalli kuvempunagara cross road in ward no 05 byatarayanapura sub division 3. Improvement of drain at dwarakanagara srirama temple road in ward no 05 byatarayanapura sub division 4. Improvement of roads and drain at kattigenahalli surrounding area in ward no 05 byatarayanapura sub division 5. Improvement of roads and drain at nirantara layout in ward no 05 byatarayanapura sub division 6. Improvement of drain and asphalting to road at agrahara layout harihara
Client	Executive Engineer Project Division Yelahanka Zone
Job No	MCTPL/BBMP/Project Division Yelahanka Zone /PMC/2017-2018/QR/P-
Mix Type	Wet Mix Macadam
Contractor	Sri A Chennareddy
Test Method	IS: 2720 (Part - 16) 1963 & Specification for Road & Bridge Works.
Location	bay
Material	Wet Mix Macadam
Sample No	11
Date	19-Apr-2018

Test Hole No	**11**
MDD	2.24
OMC in %	3.20
Bulk Density Ys	1.39
Weight of Sand In cone W1 (gm)	1195.00
Weight Of Wet soil From Hole (W2)	4432.00
Wt Of Sand +Cylinder Before Pouring (W3)gm	17000.00
Wt Of Sand +Cylinder After Pouring (W4) gm	13112.00
Wt Of Sand In Hole: W5 = W3 - W4- W1 (gm)	2693.00
Volume of Hole: V= W5/ Ys	1934.63
Bulk Density Yb= W2/V (gm/cc)	2.29
Moisture Meter Reading (%)	1.55
Moisture Content : w (From Graph In %)	3.31
Dry Density Yd = Yb/(1+W/100)	2.22
Field Compaction(%)	98.99

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Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore

Test Report
Field Density Test by Sand Replacement Method

Project Name	1. Improvement of roads and drain at kogilu layout main road and cross road in ward no 05 byatarayanapura sub division 2. Improvement of roads and drain at kattigenahalli kuvempunagara cross road in ward no 05 byatarayanapura sub division 3. Improvement of drain at dwarakanagara srirama temple road in ward no 05 byatarayanapura sub division 4. Improvement of roads and drain at kattigenahalli surrounding area in ward no 05 byatarayanapura sub division 5. Improvement of roads and drain at nirantara layout in ward no 05 byatarayanapura sub division 6. Improvement of drain and asphalting to road at gorabara layout horibara
Client	Executive Engineer Project Division Yelahanka Zone
Job No	MCTPL/BBMP/Project Division Yelahanka Zone /PMC/2017-2018/QR/P-
Mix Type	Wet Mix Macadam
Contractor	Sri A Chennareddy
Test Method	IS: 2720 (Part - 16) 1963 & Specification for Road & Bridge Works.
Location	bay
Material	Wet Mix Macadam
Sample No	12
Date	19-Apr-2018

Test Hole No	**12**
MDD	2.24
OMC in %	3.20
Bulk Density Ys	1.39
Weight of Sand In cone W1 (gm)	1195.00
Weight Of Wet soil From Hole (W2)	4436.00
Wt Of Sand +Cylinder Before Pouring (W3)gm	17000.00
Wt Of Sand +Cylinder After Pouring (W4) gm	13114.00
Wt Of Sand In Hole: W5 = W3 - W4- W1 (gm)	2691.00
Volume of Hole: V= W5/ Ys	1933.19
Bulk Density Yb= W2/V (gm/cc)	2.29
Moisture Meter Reading (%)	1.53
Moisture Content : w (From Graph In %)	3.52
Dry Density Yd = Yb/(1+W/100)	2.22
Field Compaction(%)	98.96

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Asst. Executive Engr.
Project Division
Yelahanka Zone
Bangalore

Test Report
Field Density Test by Sand Replacement Method

Project Name	1. Improvement of roads and drain at kogilu layout main road and cross road in ward no 05 byatarayanapura sub division 2. Improvement of roads and drain at kattigenahalli kuvempunagara cross road in ward no 05 byatarayanapura sub division 3. Improvement of drain at dwarakanagara srirama temple road in ward no 05 byatarayanapura sub division 4. Improvement of roads and drain at kattigenahalli surrounding area in ward no 05 byatarayanapura sub division 5. Improvement of roads and drain at nirantara layout in ward no 05 byatarayanapura sub division 6. Improvement of drain and asphalting to road at agrahara layout harihara
Client	Executive Engineer Project Division Yelahanka Zone
Job No	MCTPL/BBMP/Project Division Yelahanka Zone /PMC/2017-2018/QR/P-
Mix Type	Wet Mix Macadam
Contractor	Sri A Chennareddy
Test Method	IS: 2720 (Part - 16) 1963 & Specification for Road & Bridge Works.
Location	bay
Material	Wet Mix Macadam
Sample No	13
Date	19-Apr-2018

Test Hole No	**13**
MDD	2.24
OMC in %	3.20
Bulk Density Ys	1.39
Weight of Sand In cone W1 (gm)	1195.00
Weight Of Wet soil From Hole (W2)	4329.00
Wt Of Sand +Cylinder Before Pouring (W3)gm	17000.00
Wt Of Sand +Cylinder After Pouring (W4) gm	13171.00
Wt Of Sand In Hole: W5 = W3 - W4- W1 (gm)	2634.00
Volume of Hole: V= W5/ Ys	1892.24
Bulk Density Yb= W2/V (gm/cc)	2.29
Moisture Meter Reading (%)	1.60
Moisture Content : w (From Graph In %)	3.29
Dry Density Yd = Yb/(1+W/100)	2.21
Field Compaction(%)	98.88

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Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore

Test Report
Field Density Test by Sand Replacement Method

Project Name	1. Improvement of roads and drain at kogilu layout main road and cross road in ward no 05 byatarayanapura sub division 2. Improvement of roads and drain at kattigenahalli kuvempunagara cross road in ward no 05 byatarayanapura sub division 3. Improvement of drain at dwarakanagara srirama temple road in ward no 05 byatarayanapura sub division 4. Improvement of roads and drain at kattigenahalli surrounding area in ward no 05 byatarayanapura sub division 5. Improvement of roads and drain at nirantara layout in ward no 05 byatarayanapura sub division 6. Improvement of drain and asphalting to road at agrahara layout haribara
Client	Executive Engineer Project Division Yelahanka Zone
Job No	MCTPL/BBMP/Project Division Yelahanka Zone /PMC/2017-2018/QR/P-8/1
Mix Type	Wet Mix Macadam
Contractor	Sri A Chennareddy
Test Method	IS: 2720 (Part - 16) 1963 & Specification for Road & Bridge Works.
Location	bay
Material	Coarse Aggregates
Sample No	14
Date	19-Apr-2018

Test Hole No	**14**
MDD	2.24
OMC in %	3.20
Bulk Density Ys	1.39
Weight of Sand In cone W1 (gm)	1195.00
Weight Of Wet soil From Hole (W2)	4331.00
Wt Of Sand +Cylinder Before Pouring (W3)gm	17000.00
Wt Of Sand +Cylinder After Pouring (W4) gm	13167.00
Wt Of Sand In Hole: W5 = W3 - W4- W1 (gm)	2638.00
Volume of Hole: V= W5/ Ys	1895.11
Bulk Density Yb= W2/V (gm/cc)	2.29
Moisture Meter Reading (%)	1.61
Moisture Content : w (From Graph In %)	3.11
Dry Density Yd = Yb/(1+W/100)	2.22
Field Compaction(%)	98.95

Note:

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Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore

Test Report
Consistency test

Project Name

1. Improvement of roads and drain at kogilu layout main road and cross road in ward no 05 byatarayanapura sub division
2. Improvement of roads and drain at kattigenahalli kuvempunagara cross road in ward no 05 byatarayanapura sub division
3. Improvement of drain at dwarakanagara srirama temple road in ward no 05 byatarayanapura sub division
4. Improvement of roads and drain at kattigenahalli surrounding area in ward no 05 byatarayanapura sub division
5. Improvement of roads and drain at nirantara layout in ward no 05 byatarayanapura sub division
6. Improvement of drain and asphalting to road at agrahara layout harihara temple surrounding area in ward no 05 byatarayanapura sub division

Client	Executive Engineer Project Division Yelahanka Zone
Job No	MCTPL/BBMP/Project Division Yelahanka Zone /PMC/2017-2018/QR/P-8/1
Mix Type	Plain cement concrete
Contractor	Sri A Chennareddy
Test Method	IS : 4031 (Part 5) -1988 & Specification for Road & Bridge Works, MORT&H, Rev-V.
Location	At Site
Material	Cement
Sample No	1
Date	20-Apr-2018

Sl. No.	Description	Trial 1	Trial 2	Trial 3	Trial 4	Trial 4
1	Weight of Cement	400	400	400	400	400
2	Percentage of water added (%)	27	28.5	29.5	30	30.5
3	Weight of Water (gm)	108	114	118	120	122
4	Initial Reading of Plunger (mm)	40	40	40	40	40
5	Difference (mm)	19	16	11	6.5	5.5

Results: Standard Consistency of Cement: 30.50%

Note:

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Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore

Test Report
Fineness test

Project Name

1. Improvement of roads and drain at kogilu layout main road and cross road in ward no 05 byatarayanapura sub division
2. Improvement of roads and drain at kattigenahalli kuvempunagara cross road in ward no 05 byatarayanapura sub division
3. Improvement of drain at dwarakanagara srirama temple road in ward no 05 byatarayanapura sub division
4. Improvement of roads and drain at kattigenahalli surrounding area in ward no 05 byatarayanapura sub division
5. Improvement of roads and drain at nirantara layout in ward no 05 byatarayanapura sub division
6. Improvement of drain and asphalting to road at agrahara layout harihara temple surrounding area in ward no 05 byatarayanapura sub division

Client	Executive Engineer Project Division Yelahanka Zone
Job No	MCTPL/BBMP/Project Division Yelahanka Zone /PMC/2017-2018/QR/P-8/1
Mix Type	Plain cement concrete
Contractor	Sri A Chennareddy
Test Method	IS : 4031 (Part 5) -1988 & Specification for Road & Bridge Works, MORT&H, Rev-V.
Location	At site
Material	Cement
Sample No	1
Date	20-Apr-2018

Sl. No.	Determination	Trial 1	Trial 2
1	Weight of Cement before sieve (gm)	100	100
2	Weight of residue retained on 90um sieve (gm)	5.2	3.9
3	Percentage retained (%)	5.2	3.9
4	Average Percentage retained (%)	4.55	

Results: Residue of cement is: 4.35%

Comments: Maximum allowable residue by mass for ordinary portlad cement is 10%

Note:

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Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore

Test Report
Soundness test

Project Name	1. Improvement of roads and drain at kogilu layout main road and cross road in ward no 05 byatarayanapura sub division 2. Improvement of roads and drain at kattigenahalli kuvempunagara cross road in ward no 05 byatarayanapura sub division 3. Improvement of drain at dwarakanagara srirama temple road in ward no 05 byatarayanapura sub division 4. Improvement of roads and drain at kattigenahalli surrounding area in ward no 05 byatarayanapura sub division 5. Improvement of roads and drain at nirantara layout in ward no 05 byatarayanapura sub division 6. Improvement of drain and asphalting to road at agrahara layout harihara temple surrounding area in ward no 05 byatarayanapura sub division
Client	Executive Engineer Project Division Yelahanka Zone
Job No	MCTPL/BBMP/Project Division Yelahanka Zone /PMC/2017-2018/QR/P-8/1
Mix Type	Plain cement concrete
Contractor	Sri A Chennareddy
Test Method	IS : 4031 (Part 3) -1988 & Specification for Road & Bridge Works, MORT&H, Rev-V.
Location	At Site
Material	Cement
Sample No	1
Date	20-Apr-2018

Sl. No.	Description	Trial 1	Trial 2	Trial 3
1	Initial Distance between the indicator points of Lechatelier mould	11	10	11
2	Final Distance between the indicator points of Lechatelier mould	17	17	15
3	Difference or expansion	6	7	4
4	Average Differences or Expansion in mm		5.67	

Results: Difference in Expansion of Cement: 5.67mm

Comments: Maximum allowable Expansion of cement is 10mm.

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Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore

Test Report
Compressive strength test

Project Name: 1. Improvement of roads and drain at kogilu layout main road and cross road in ward no 05 byataravanapura sub division
2. Improvement of roads and drain at kattigenahalli kuvempunagara cross road in ward no 05 byataravanapura sub division
3. Improvement of drain at dwarakanagara srirama temple road in ward no 05 byataravanapura sub division
4. Improvement of roads and drain at kattigenahalli surrounding area in ward no 05 byataravanapura sub division
5. Improvement of roads and drain at nirantara layout in ward no 05 byataravanapura sub division
6. Improvement of drain and asphalting to road at agrahara layout harihara temple surrounding area in ward no 05 byataravanapura sub division

Client: Executive Engineer Project Division Yelahanka Zone
Job No: MCTPL/BBMP/Project Division Yelahanka Zone /PMC/2017-2018/QR/P-8/1
Mix Type: Plain cement concrete
Contractor: Sri A Chennareddy
Test Method: IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location: At Site
Material: Cement
Sample No: 1
Date: 30-Apr-2018

Cube	Cement Grade	Age at Test (Days)	Slump (mm)	Weight (kg)	Dimension (LxWxH)	Density (kg/m3)	Max. Load (KN)	Area (mm2)	Compressive Strength (N/mm2)	Average Sample (n/mm2)
1	43	7	-	0.81	70.6x70.6 x70.6	2301.8	182	4984.36	36.51	36.61
2	43	7	-	0.84	70.6x70.6 x70.6	2387.1	183	4984.36	36.71	

Results: 7-days Compressive strength of cement is 36.61N/mm^2

Comments: 7-days Compressive strength of cement should not be less than 33 N/mm^2

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Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore

Test Report
Compressive strength test

Project Name
1. Improvement of roads and drain at kogilu layout main road and cross road in ward no 05 byatarayanapura sub division
2. Improvement of roads and drain at kattigenahalli kuvempunagara cross road in ward no 05 byatarayanapura sub division
3. Improvement of drain at dwarakanagara, sriram temple road in ward no 05 byatarayanapura sub division
4. Improvement of roads and drain at kattigenahalli surrounding area in ward no 05 byatarayanapura sub division
5. Improvement of roads and drain at nirantara layout in ward no 05 byatarayanapura sub division
6. Improvement of drain and asphalting to road at agrahara layout harihara temple surrounding area in ward no 05 byatarayanapura sub division

Client Executive Engineer Project Division Yelahanka Zone
Job No MCTPL /BBMP/Project Division Yelahanka Zone /PMC/2017-2018/QR/P-8/1
Mix Type Plain cement concrete
Contractor Sri A Chennareddy
Test Method IS: 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V
Location At Site
Material Cement
Sample No 1
Date 21-May-2018

Cube	Cement Grade	Age at Test (Days)	Slump (mm)	Weight (kg)	Dimension (LxWxH)	Density (kg/m3)	Max. Load (KN)	Area (mm2)	Compressive Strength (N/mm2)	Average Sample (n/mm2)
1	43	28	-	0.805	70.6x70.6 x70.6	2287.0	227	4984.36	45.54	45.64
2	43	28	-	0.815	70.6x70.6 x70.6	2316	228	4984.36	45.74	

Results: 28-days Compressive strength of cement is 45.64N/mm²
Comments: 28-days Compressive strength of cement should not be less than 43 N/mm²

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